

## Class VI UIC Pre-Operational Testing

This submission is for:

Project ID: R09-CA-0003

Project Name: CTV Elk Hills A1-A2

Current Project Phase: Pre-Injection Prior to Construction

Proposed Pre-Operational Testing: [https://epa.veio.pnnl.gov/alfresco/service/veio/getFile/no\\_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-30-2021-1617/Testing--Plan.pdf](https://epa.veio.pnnl.gov/alfresco/service/veio/getFile/no_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-30-2021-1617/Testing--Plan.pdf)

Proposed Pre-Operational Testing Schedule: [https://epa.veio.pnnl.gov/alfresco/service/veio/getFile/no\\_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-30-2021-1617/Testing--Schedule.pdf](https://epa.veio.pnnl.gov/alfresco/service/veio/getFile/no_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-30-2021-1617/Testing--Schedule.pdf)

State Pre-Operational Test Results: [https://epa.veio.pnnl.gov/alfresco/service/veio/getFile/no\\_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-30-2021-1617/State--Requirements.pdf](https://epa.veio.pnnl.gov/alfresco/service/veio/getFile/no_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-30-2021-1617/State--Requirements.pdf)

## Well and Cement Logs

1. Number of Wells Tested: 1

### Well #1

Well Location: 35.32802963 Latitude -119.5449982 Longitude Well Name: 357-7R

Select Well and Cement Logs and Tests Conducted Under the Pre-Operational Testing Program:

During Drilling: Deviation Checks

Before Installation of Long String Casing: Resistivity Spontaneous Potential Porosity Caliper Gamma Ray

After Installation of Long String Casing: Cement Bond Variable Density Log

2. Number of Reports to be Uploaded: 1

### Report #1

Report File: [https://epa.veio.pnnl.gov/alfresco/service/veio/getFile/no\\_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-30-2021-1617/357-7R--Logging--and--Testing.pdf](https://epa.veio.pnnl.gov/alfresco/service/veio/getFile/no_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-30-2021-1617/357-7R--Logging--and--Testing.pdf)

Description of the File Uploaded: Log analyst report for all logs conducted before and after instalation of long string casing.

## MITs

1. Number of Wells Tested: 1

### Well #1

Well Location: 35.32802963 Latitude -119.5449982 Longitude Well Name: 357-7R

Select the Test(s) Conducted to Demonstrate Internal and External Mechanical Integrity: Pressure Test with Liquid or Gas Tracer Survey (e.g., Oxygen Activation Log), Enter Name: Radioactive tracer Temperature Log

2. Number of Reports to be Uploaded: 1

### Report #1

Report File: [https://epa.veio.pnnl.gov/alfresco/service/veio/getFile/no\\_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-30-2021-1617/357-7R--Mechanical--Integrity--Testing.pdf](https://epa.veio.pnnl.gov/alfresco/service/veio/getFile/no_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-30-2021-1617/357-7R--Mechanical--Integrity--Testing.pdf)

Description of the File Uploaded: MIT (radioactive tracer and temperature) and SAPT.

## Core Analyses

1. Number of Cores Tested: 1

### Core #1

Whole Core Core ID: NA

Core Location: 35.32898331 / 35.32786179 Latitude -119.5422287 / -119.5350342 Longitude Well Name: 367-7R / 317-8R

Elevations Specified By: Attached File

[https://epa.veio.pnnl.gov/alfresco/service/veio/getFile/no\\_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-30-2021-1617/367-7R--and--317-8R--Core--Depth.csv](https://epa.veio.pnnl.gov/alfresco/service/veio/getFile/no_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-30-2021-1617/367-7R--and--317-8R--Core--Depth.csv)

Select All Properties/Tests Included in Uploaded Reports:

Total Porosity Horizontal Permeability

Lithology

2. Number of Reports to be Uploaded: 1

### Report #1

Report File: [https://epa.veio.pnnl.gov/alfresco/service/veio/getFile/no\\_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-30-2021-1617/367-7R--and--317-8R--Core--Depth.csv](https://epa.veio.pnnl.gov/alfresco/service/veio/getFile/no_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-30-2021-1617/367-7R--and--317-8R--Core--Depth.csv)

Description of the File Uploaded: Log analyst report for Monterey Formation A1-A2 core analysis.

## Formation Characterization

1a. Number of Geologic Formations (or Distinct Units/Zones) within the Injection Zone: 1

### Injection Formation #1

Formation/Zone Name: Monterey Formation A1-A2

Select Properties Measured: Fluid Temperature pH Conductivity Reservoir Pressure Static Fluid Level Fracture Pressure

1b. Number of Geologic Formations (or Distinct Units/Zones) within the Confining Zone: 1

### Confining Formation #1

Formation/Zone Name: Reef Ridge

Select Properties Measured: Other Physical/Chemical Parameters of the Formation (list): Core analysis with lithology, permeability and capillary pressure.

2. Number of Reports to be Uploaded: 2

### Report #1

Report File: [https://epa.velo.pnnl.gov/alfresco/service/velo/getFile/no\\_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-30-2021-](https://epa.velo.pnnl.gov/alfresco/service/velo/getFile/no_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-30-2021-1617/Injection--Zone--Properties.pdf)

[1617/Injection--Zone--Properties.pdf](#)

Description of the File Uploaded: Injection zone properties.

### Report #2

Report File: [https://epa.velo.pnnl.gov/alfresco/service/velo/getFile/no\\_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-30-2021-](https://epa.velo.pnnl.gov/alfresco/service/velo/getFile/no_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-30-2021-1617/Confining--Zone--Properties.pdf)

[1617/Confining--Zone--Properties.pdf](#)

Description of the File Uploaded: Confining zone properties

## Injection Well Testing

1. Number of Wells Tested: 1

### Well #1

Well Location: 35.32802963 Latitude -119.5449982 Longitude Well Name: 357-7R

Select Injection Well Tests Conducted: Other: 357-7R gas injection and pressure build-up test.

2. Number of Reports to be Uploaded: 1

### Report #1

Report File: [https://epa.velo.pnnl.gov/alfresco/service/velo/getFile/no\\_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-30-2021-](https://epa.velo.pnnl.gov/alfresco/service/velo/getFile/no_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-30-2021-1617/357-7R--Well--Testing.pdf)

[1617/357-7R--Well--Testing.pdf](#)

Description of the File Uploaded: Well 357-7R has injected 3.5 billion cubic feet of gas.

Supporting Data File(s): [https://epa.velo.pnnl.gov/alfresco/service/velo/getFile/no\\_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-](https://epa.velo.pnnl.gov/alfresco/service/velo/getFile/no_wiki/shared/Submissions/R09-CA-0003/Phase1-PreConstruction/PreOpTest-08-30-2021-1617/Attachment--G--Construction--Details.pdf)

[30-2021-1617/Attachment--G--Construction--Details.pdf](#)

## Complete Submission

Authorized submission made by: Travis Hurst

For confirmation a read-only copy of your submission will be emailed to: [travis.hurst@crc.com](mailto:travis.hurst@crc.com)